

1881. July. A Signal Service expedition to the summit of Mount Whitney, Cal., was organized in charge of Prof. S. P. Langley for the study of the sun's heat as received by the atmosphere. The report is published as Signal Service Professional Paper No. XV.

1881. September. Inauguration of a system of "Cotton Belt" observations and reports.

1881. Inauguration of work on the General Bibliography of Meteorology. This work, which has proved to be important to those studying the subject, was pushed forward rapidly until 1893 by which time four sections had been published. (These sections were not printed but mimeographed.)

1881. Inauguration of special warnings for the benefit of the sugar interests of Louisiana.

1881. The two systems of observations that had been thus far maintained—7 a. m., 2 and 9 p. m., local time, and 7:35 a. m., 4:35 and 11 p. m., simultaneous Washington time—were discontinued, and a systematic record at 3, 7, and 11 a. m., 3, 7, and 11 p. m., Washington time, was begun and maintained at nearly all stations until 1884, when it was changed from Washington to seventy-fifth meridian time.

1881–1886. From 1881 to 1886 were published a quarto series of Professional Papers and an octavo series of Signal Service Notes.

1881–1891. Prof. Elias Loomis of Yale University published summaries of the results of his studies of the daily weather map of the Signal Service, in the American Journal of Science.

1881. In this year and during a portion of 1882, the first "local weather forecasts" for publication were made at the New York office of the weather service by E. B. Garriott.

[To be continued.]

RECENT ADDITIONS TO THE WEATHER BUREAU LIBRARY.

C. FITZHUGH TALMAN, Librarian.

The following have been selected from among the titles of books recently received, as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies. Most of them can be lent for a limited time to officials and employees who make application for them. Anonymous publications are indicated by a —.

Aia. Samoa Observatorium.

... Ergebnisse der Arbeiten des Samoa-Observatorium der Königlichen Gesellschaft der Wissenschaften zu Göttingen. II. Die meteorologischen Registrierungen der Jahre 1902–1906 von Otto Teten und Franz Linke. Berlin. 1908. 137 p. 4°. (Abhandlungen der Königlichen Gesellschaft der Wissenschaften zu Göttingen. Mathematisch-physikalische Klasse. Neue Folge. Bd. 17. Nr. 2.)

Batavia. Royal magnetic and meteorological observatory.

Magnetic survey of the Dutch East Indies made in the years 1903–1907 by W. van Bemmelen. Batavia. 1909. 69 p. 4°. (Appendix 1 to Observations ... v. 30, 1907.)

Belgium. Observatoire royal.

Annuaire météorologique. 1909. Bruxelles. vii, 203 p. 24°.

Bosnia-Herzegovina.

Ergebnisse der meteorologischen Beobachtungen. 1906–1907. Sarajevo. 1908. xvi, 173 p. 4°.

Delatour, A. J.

A daily record of the thermometer for ten years, from 1840 to 1850, as kept at Delatour's, formerly Lynch & Clarke's, 25 Wall street, New York. 1850. 46 p. 16°.

Denmark. Danske meteorologiske Institut.

Nautisk-meteorologisk Aarbog. Kobenhavn. 1909. iii, 169 p. 4°.

Egypt. Survey department.

Meteorological report 1906. Cairo. 1908. v. p. 4°.

Fortschritte der Physik.

1st Abtheilung. 1908. Braunschweig. 1909. xxxii, 573 p. 8°.

Ghent. Université.

Annuaire météorologique de la Station de géographie mathématique.

Mars 1908–Février 1909. Roulers. 1909. 91 p. 12°.

Greifswald. Meteorologische Station.

Die Ablesungen der meteorologischen Station Greifswald vom 1. Januar bis 31. Dezember 1908 nebst Jahresübersicht über das Jahr 1908. Greifswald. [1909.] 50 p. 8°.

Hamburg. Hauptstation für Erdbebenforschung am Physikalischen Staatslaboratorium.

Calabrisch-sizilianisches Erdbeben am 28. Dezember 1908. I & II. 2 sheets. 27 x 100 cm.

Erdbeben in Persien (Provinz Luristan) am 23. Januar 1909. 1 sheet. 27 x 93 cm.

Vogtländische Erdbebenstöße am 4. und 6. November 1908. 1 sheet. 27 x 100 cm.

Haute-Garonne. Commission météorologique.

Bulletin. Tome 2. 1^{er} fasc. 1906. Toulouse. 1908. 58, [169] p. 4°.

India. Board of scientific advice.

Annual report. 1907–08. Calcutta. 1909. iii, 182 p.

India. Meteorological department.

Rainfall of India. 1907. Calcutta. 1908. v. p. 4°.

International meteorological committee.

Codex of resolutions adopted at international meteorological meetings, 1872–1907. Prepared at the request of the International meteorological committee, by H. H. Hildebrandsson and G. Hellmann. London. 1909. 80 p. 8°.

Jahrbuch der Astronomie und Geophysik.

19 Jahrgang 1908. Leipzig. 1909. viii, 384 p. 8°.

Japan. Central meteorological observatory.

Annual report. 1906. pt. 1. [Tokyo. 1909.] 4°.

Mache, H., & Schweißler, E. v.

... Die atmosphärische Elektrizität. Methoden und Ergebnisse der modernen luftelektrischen Forschung. Braunschweig. 1909. xi, 245 p. 8°. (Die Wissenschaft. Sammlung naturwissenschaftlicher und mathematischer Monographien. Heft 30.)

Nice. Observatoire.

... Annales. Tome 11. Paris. 1908. v. p. 4°.

Same Tome 13. 1^{er} fasc. Paris. 1908. v. p. 4°.

Norwegian aurora polaris expedition 1902–1903.

v. 1. On the cause of magnetic storms and the origin of terrestrial magnetism, by Kr. Birkeland. Christiania. [1908.] vi, 315 p. 4°.

Paris. Observatoire municipal. Montsouris.

Annales. v. 7. Paris. 1906. 535 p. 4°.

Annales. v. 8. Paris. 1907. 423 p. 4°.

Prager, Walter.

Rumänien's landwirtschaftliche Klimatographie. Halle a. S. 1909. 203 p. 8°.

Prague. K. k. Sternwarte.

Magnetische und meteorologische Beobachtungen. 1908. 69. Jahr. Prag. 1909. 47 p. 4°.

Russia. Central physical Nicholas observatory.

Annales. 1905. 1^{er} partie. St. Petersburg. 1908. v. p. 4°.

Annales. 1905. 2nd partie. St. Petersburg. 1908. v. p. 4°.

Annales. 1905. 3rd partie. St. Petersburg. 1908. v. p. 4°.

Schellenberg, Osmar.

Studien zur Klimatologie Greichenlands. Temperatur, Niederschläge, Bewölkung. Leipzig. 1908. 98 p. 8°. (Inaug.-diss. Leipzig.)

Switzerland. Schweizerische meteorologische Central-Anstalt.

Annalen ... 1907. Zürich. [1909.] v. p. 4°.

Tacubaya. Observatorio astronomico nacional.

Observaciones meteorológicas 1897. Mexico. 1909. 239 p. 4°.

Uruguay. Instituto meteorológico nacional.

Promedios mensuales. Año 1908. [Montevideo. 1909.] 1 sheet. 42 x 83 cm.

Zi-ka-wei. Observatoire.

Code des signaux. Changhal. 1909. 19 p. 24°.

Signaux aux marins. Changhal. 1909. 23 p. 8°.

RECENT PAPERS BEARING ON METEOROLOGY AND SEISMOLOGY.

C. FITZHUGH TALMAN, Librarian.

The subjoined titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. The titles selected are of papers or other communications bearing on meteorology or cognate branches of science. This is not a complete index of the meteorological contents of all the journals from which it has been compiled; it shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau. Unsigned articles are indicated by a —.

American journal of science. New Haven. 5th ser. v. 27. April, 1909.

Perret, Frank A. Preliminary report of the Messina earthquake of December 28, 1908. p. 321–334.

California physical geography club. Bulletin. Berkeley. v. 2. March, 1909.

Rowell, Percy E. The San Rafael high school weather observations. p. 6–9.

- India.** Meteorological department. *Mémoires. Calcutta.* v. 18, pt. 2.
- Elliot, Sir John. A description of the anemographic observations recorded at Saugor Island from March, 1880, to February, 1904. p. 123-214. [Includes a description of the climate.]
- Elliot, Sir John. A discussion of the anemographic observations recorded at Alipore (Calcutta) from March, 1877, to February, 1904. p. 215-282. [Includes a description of the climate.]
- Nature. London.** v. 80. 1909.
- Dines, W. H. Meteorological observations [of Lieutenant Shackleton's antarctic expedition]. (Apr. 1.) p. 133-134.
- Berson, A. The Royal Prussian aeronautical observatory's aero logical expedition to tropical east Africa. (Apr. 8.) p. 171-172.
- Teisserenc de Bort, L. & Rotch, A. Lawrence. General results of the meteorological cruises of the *Otaria* on the Atlantic in 1905, 1906, and 1907. (Apr. 22.) p. 219-221.
- London, Edinburgh, and Dublin philosophical magazine. London.** 6 series. v. 17. April, 1909.
- Simpson, George C. On the Wilson-Gerdien theory of thunder storm electricity. p. 619-634.
- Wilson, C. T. R. On thunderstorm electricity. p. 634-641.
- Royal Society. Proceedings. London.** ser. A. v. 82. 1909.
- Simpson, George C. On the electricity of rain and its origin in thunderstorms. p. 169-172. [Abstract.]
- Royal meteorological society. Quarterly journal. London.** v. 35. April, 1909.
- Mill, Hugh Robert. Some aims and efforts of the Royal meteorological society in its relation to the public and to meteorological science. p. 65-79.
- Meteorology at Harvard university. p. 79-80.
- Hail insurance. p. 89-90.
- Köppen, W. Proposal to express all measurements of atmospheric pressure by a universal measurement of force. p. 132-134.
- Newman, T. P. Temperature and rainfall at Pemba, E. Africa. p. 139-140.
- Science. New York.** v. 29. Jan. 29, 1909.
- Very, Frank W. The presence of water vapor in the atmosphere of Mars demonstrated by quantitative measurements. p. 191-193.
- Scientific American supplement. New York.** v. 47. April 17, 1909.
- Joly, John. Underground temperature and radium. Is the one due to the other? p. 246.
- Tokyo mathematico-physical society. Proceedings. Tokyo.** v. 5. Feb., 1909.
- Homma, V. Ueber eine Gewitterperiode. p. 12-42.
- Aérophile. Paris.** 17 année. 1 mai 1909.
- Mastrand, A. de. Un institut d'aérodynamique en Russie. p. 194-197.
- Annales de géographie. Paris.** 18 année. 15 mars 1909.
- Voeikov, A. Projets d'organisation de services scientifiques en Russie. p. 183-184. [Note on the meeting of Russian meteorologist at St. Petersburg. Jan., 1909.]
- Ciel et terre. Bruxelles.** 30 année. 1 avril 1909.
- Boutquin, A. L'Asie centrale. p. 60-63.
- France. Académie des sciences. Comptes rendus. Paris.** Tome 148. 1909.
- Millochau, G. Contribution à l'étude du rayonnement. (22 mars.) p. 780-782.
- Féry, O. Détermination de la constante de la loi de Stefan. (5 avril.) p. 915-918.
- Hallutte, —. Orage sur mer. (19 avril.) p. 1066.
- Angot, Alfred. Sur la valeur et la variabilité des moyennes barométriques. (26 avril.) p. 1131-1133.
- Angot, Alfred. Sur le tremblement de terre du 23 avril 1909. (26 avril.) p. 1133.
- Géographie. Paris.** Tome 19. 15 février 1909.
- Rabot, Charles. Le tremblement de terre du 28 décembre 1908 en Sicile et en Calabre. p. 128-131.
- Nature. Paris.** 37 année. 10 avril 1909.
- Troller, A. La dispersion des brouillards. p. 289-291.
- Société belge d'astronomie. *Bulletin. Bruxelles.* 14 année. 1909.
- Nodon, A. L'origine solaire des cyclones et des tempêtes. (mars.) p. 121-123.
- Arctowski, Henryk. Variations de la répartition de la pression atmosphérique à la surface du globe. (mars.) p. 161-163.
- Durand-Gréville, E. L'aube et l'albe. Premier crépuscule du matin et second crépuscule du soir. (avril.) p. 163-173.
- Illustrierte aeronautische Mittheilungen. Strasburg.** 13. Jahrgang. 1909.
- Berson, A., & Elias, H. Die Ostafrika Expedition des Königlich aeronautischen Observatoriums. (April 7, 21.) p. 219-223; 301-309.
- Meteorologische Zeitschrift. Braunschweig.** Band 26. März 1909.
- Miethe, A., & Lehmann, E. Dämmerungsbeobachtungen in As-suan im Winter 1908. p. 97-114.
- Woeikow, A. Temperatur ostasiatischer Flüsse und eines Polar-sees daselbst. p. 114-118. [Abstract of two papers by Schostakowicz.]
- Woeikow, A. Die meteorologische Station Vassissaure in Schwei-disch-Lappland. p. 118-120.
- Exner, Felix M. Neue Strahlungsuntersuchungen aus dem Astrophysikalischen Observatorium der Smithsonian Institution. p. 120-129. [Abstract.]
- Pollack, Vincenz. Gebirgswinter und Lawinenfall. p. 129-130.
- Braak, C. Beobachtungen über Richtung und Geschwindigkeit des Cirruszuges in Batavia. p. 130.
- Exner, Felix M. Knut Angströms neue Methode zur Untersuchung der Sonnenstrahlung. p. 131-133.
- Pringal, E. Ueber den wesentlichen Einfluss von Spuren nitroser Gase auf die Kondensation von Wasserdampf. p. 133-135. [Abstract.]
- Richarz, F. Ueber den wesentlichen Einfluss von Spuren nitroser Gase auf die Kondensation von Wasserdampf. p. 135. [Abstract.]
- H[ann], J[ulius]. Klima von Monastir. p. 136.
- H[ann], J[ulius]. Klima von Lourenço Marques, Mozambique. p. 136-137.
- Hann, J. Resultate der meteorologischen Beobachtungen zu Harar 1902 bis 1904. p. 137-138.
- Maurer, J. Rübel, E.: Untersuchungen über das photochemische Klima des Bernina-Hospizes. p. 139-140. [Abstract.]
- Meteorologische Zeitschrift. Braunschweig.** Band 26. April 1909.
- Alt, E. Die Doppeloszillation des Barometers, insbesondere im arktischen Gebiete. p. 145-164.
- Maurer, J. Aus langjährigen Aufzeichnungen des Schweizer Föhns. p. 165-170.
- Wagner, A. W. J. Humphreys: Die vertikalen Temperaturgradienten in der Atmosphäre. p. 172-174.
- Fitzner, —. Mittlere Regenmessungen und Mitteltemperaturen für Deutsch-Togo. p. 175.
- Resultate der meteorologischen Beobachtungen zu Hebron (Palästina) im Jahre 1907. p. 178.
- Resultate der meteorologischen Beobachtungen zu Bultenzorg im Jahre 1907. p. 181.
- Schmidt, Wilhelm. Eine unmittelbare Bestimmung der Fallgeschwindigkeit von Regentropfen. p. 183-184.
- Hann, J[ulius]. Resultate meteorologischer Beobachtungen zu Bolobo am Congo. p. 185-186.
- Prometheus. Berlin.** 20. Jahrgang. 1909.
- Kurz, Karl. Elektrizität der Atmosphäre und Radioaktivität der Atmosphäre. (14, 21, 28 April) p. 438-442; 449-452; 465-469.
- Wetter. Berlin.** 26. Jahrgang. März 1909.
- Hoffman, J. F. Die Veränderung des Grundwasserstandes und die Volgersche Theorie. p. 49-60.
- Joester, Karl. Die Föhnerscheinungen im Riesengebirge. p. 60-62.
- Wetter. Berlin.** 26. Jahrgang. April 1909.
- Schubert, J. Die Witterung in Eberswalde im Jahre 1907. p. 73-79.
- Joester, Karl. Die Föhnerscheinungen im Riesengebirge. p. 79-84.
- Gockel, A. Zusammenhang zwischen Blitz und Regenintensität. p. 89.
- Wiener Luftschiffer-Zeitung. Wien.** 8. Jahrgang. 15. April 1909.
- Hinterstoissier, —. Die Konferenz in Monaco. (Sechste Konferenz der Internationalen Kommission für wissenschaftliche Luftschiffahrt in Monaco vom 30. März bis 6. April 1909.) p. 134-135.
- Hildebrandt, D. Das Observatorium auf Teneriffa. p. 135-137.
- Hemel en dampkring. Amsterdam.** 6. Jaargang. April 1909.
- Volkswijheid over het weer. p. 191-192. [Gives a number of Dutch weather proverbs.]
- Koninklijk Nederlandsch meteorologisch Institut. Mededeelingen en Verhandelingen. Utrecht.** No. 6. 1908.
- Everdingen, E. van. De uitkomsten der weersverwachtingen van het Koninklijk Nederlandsch meteorologisch institut in 1904 en 1905, en in den Zomer van 1907. p. 3-26.
- Académie impériale des sciences. Bulletin. St. Petersburg.** 6 sér. mars 1909.
- Galitzin, B. Das Sicilianische Erdbeben am 28. Dezember 1908 nach den Aufzeichnungen der Pulkowa'schen seismischen Station. p. 279-298.
- Società aeronautica Italiana. Bollettino. Roma.** Anno 6. Marzo 1909.
- Eredia, F. I venti in Italia. p. 96-108.
- Il movimento ondoso degli strati atmosferici. p. 24-25.
- Misure di ionizzazione dell'aria su terraferma ed in mare. p. 125-127.
- Società geografica Italiana. Bolletina. Roma.** ser. 4. v. 10. Aprile 1909.
- De Castro, Lincoln. La città e il clima di Addis Abeba. p. 409-442. [Illustrated.]
- Note sul clima e sull'idrografia della Somalia Italiana (Benadir). p. 455-457.
- Sociedade de geographia de Lisboa. Boletim. Lisboa.** 27. ser. Fev. 1909.
- Gomes de Sousa, Ernesto. Resumo das observações no anno de 1908 no observatorio de Loanda. p. 76.

HIGH WINDS IN OHIO.

[Extract from the Monthly Climatological Report, Ohio Section, April, 1909.]

The total wind movement for the month of April was unusually great and there were a number of very damaging storms.